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UNITED STATES DEPARTMENT OF AGRICULTURE
ECONOMIC RESEARCH SERVICE
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WASHINGTON, D.C. 20250

U.S. AGRICULTURAL EXPORT OPPORTUNITIES

Talk to be presented to the Southwestern Conference on Agricultural Policy and Economic Development sponsored by Louisiana State University, North Carolina State University, and the Kellogg Foundation at Baton Rouge, La., on April 27, 1966.

by

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There is a distinct difference between needs and effective demands for food and fiber exports. A large part of the world's population is ill fed and ill clothed. But the extent to which these needs are reflected in agricultural imports is severely limited by the low incomes and the limited external financial reserves available in the less-developed countries. Because of these problems, food imports of less-developed countries are a small portion of our total market for agricultural products and particularly of our commercial market. More than three-fourths of our agricultural exports for dollars in 1965, for example, went to 10 industrial and transitional countries. These were Japan, Canada, the Netherlands, United Kingdom, West Germany, Italy, Belgium-Luxembourg, France, Spain, and Mexico.

Exports to the less-developed countries have been made largely under special Government programs. Provisions enabling sales for local currency and under long-term loans bypass some of the foreign exchange reserve problems of the less-developed countries. Exports under these two programs

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account for three-fourths of our total P.L. 480 exports. The remaining one-fourth is exported under donation and barter programs. Food relief and famine programs help bypass both problems of local currency and domestic purchasing power.

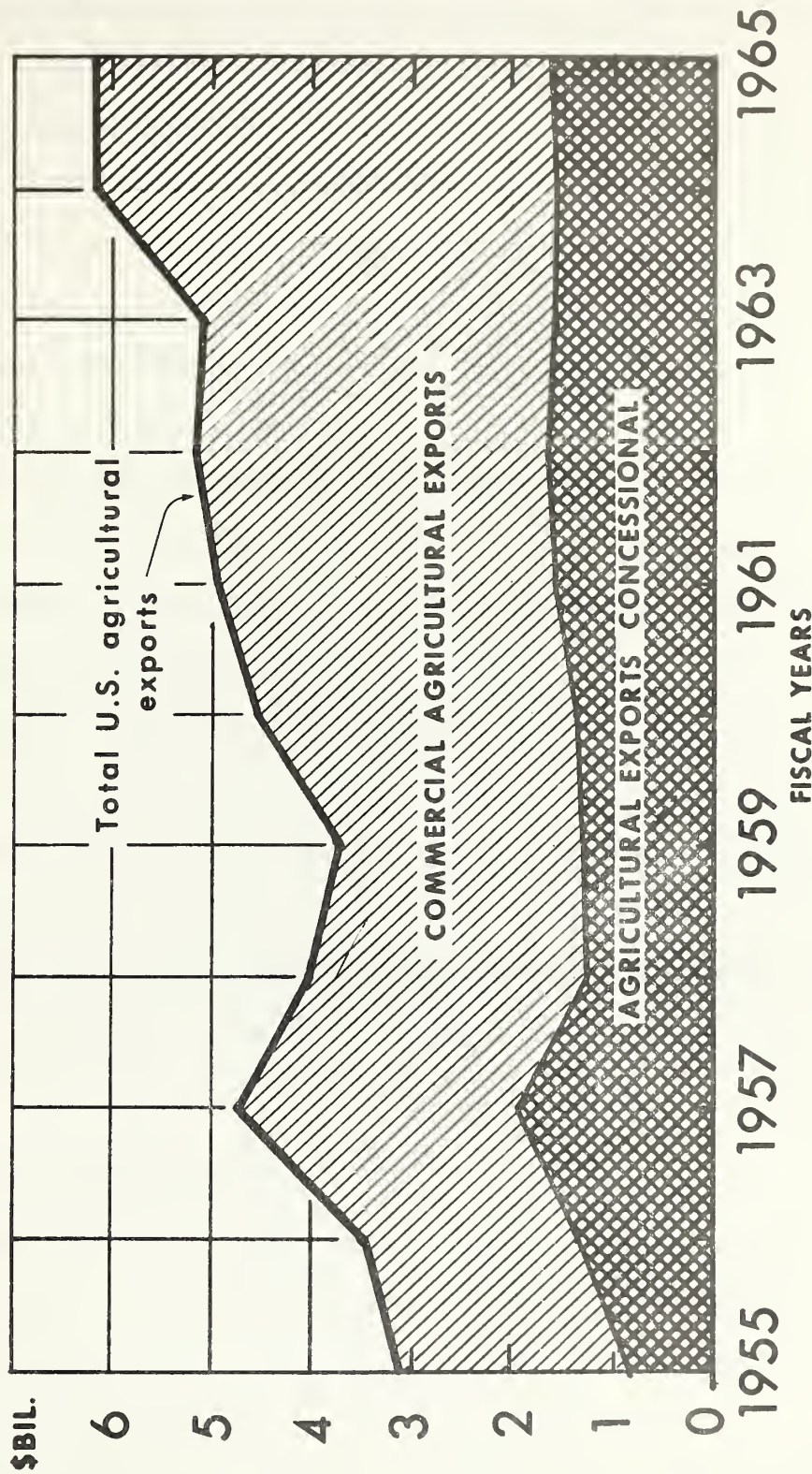
About two-thirds of our wheat, one-third of our rice, and about 15 percent of our oilseeds are exported under these programs. In addition to the immediate effect of meeting food needs, such food aid has been effectively used to stimulate economic development to a point where agricultural imports can be purchased commercially in such countries as Japan, Spain, and Taiwan.

Total U.S. agricultural exports have increased rapidly in the past decade, rising from \$3.5 billion in 1955 to \$6.2 billion in 1965 and to an estimated \$6.5 billion in 1966 (figure 1). Most of the increase has occurred in agricultural exports for dollars. Commercial sales in each of the last 3 years exceeded exports of a decade ago by more than \$2 billion. Exports under special Government programs also have increased and now account for about \$1.7 billion of our export totals. This compares with \$1.4 billion a decade ago.

The gains in U.S. agricultural exports have been made in a highly competitive world market. World cotton and grain prices, for example, declined in the early 1950's and have remained at lower levels since. The relatively low export prices reflect gains in production efficiency and the fact that supplies of many of these products continue to outrun effective demands for food. Export payments and sales below domestic market prices make certain that U.S. agricultural products are price competitive on the

U.S. commercial exports have expanded faster than concessional

VALUE OF U.S. AGRICULTURAL EXPORTS



world market. In 1964-65, about one-third of total U.S. agricultural exports received export payment assistance. Currently wheat, cotton, and rice are the principal commodities on which export payments are made.

The overall export picture, of course, is not a single picture, but a mosaic made up of many commodities. Our largest gains in exports have been in grains and oilseeds (figure 2). In recent years, feed grain and oilseed exports in particular have increased rapidly. Feed grain and soybean exports have more than doubled since 1960.

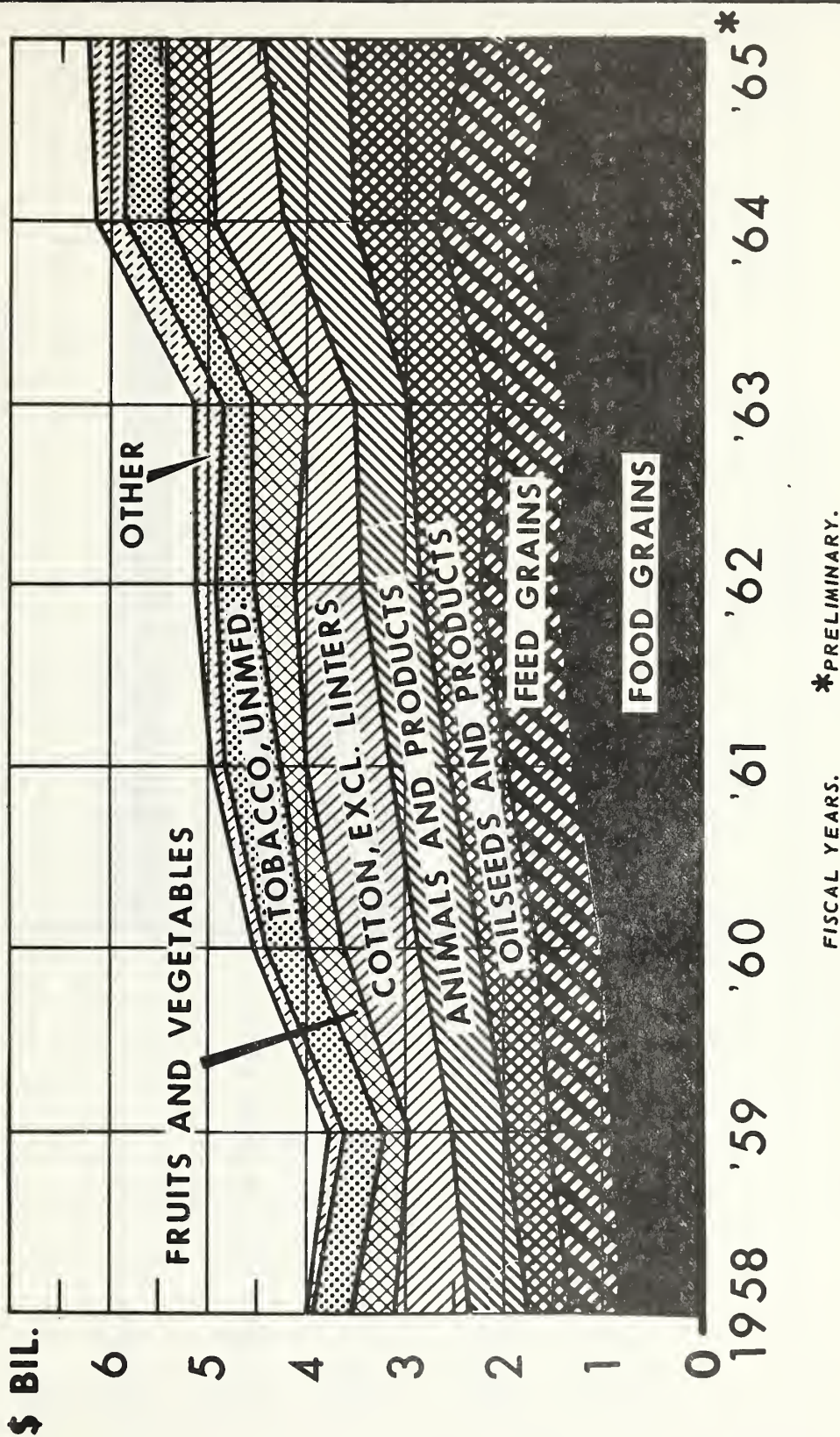
Five commodity groups are of major importance in the export market of the Southwest--cotton, wheat, rice, feed grains, and oilseeds (figure 3). Changes in the value of the export share of different commodities in the Southwest represent both changes in the total exports of that commodity and their importance in production in the Southwest. The importance of cotton in the export picture of the Southwest has declined in the last 6 years, but it still remains the number one export. Rapid increases have been made in the value of the export shares for wheat, rice, oilseeds, and feed grains. The projected total value of the agricultural export share for the Southwest for this fiscal year amounts to over \$1.1 billion, more than one-sixth of our total agricultural exports.

Food Deficits and Increased Exports

A first objective of my assignment was to explore from the standpoint of agricultural exports the alternatives available to the United States in meeting the nutritional deficits in the underfed areas of the world. Before exploring the alternatives available to filling food deficits, it is desirable to define exactly the deficits being discussed. In USDA's World Food Budget, the food deficit is defined as being the difference between the

U. S. AGRICULTURAL EXPORTS

By Commodity Groups



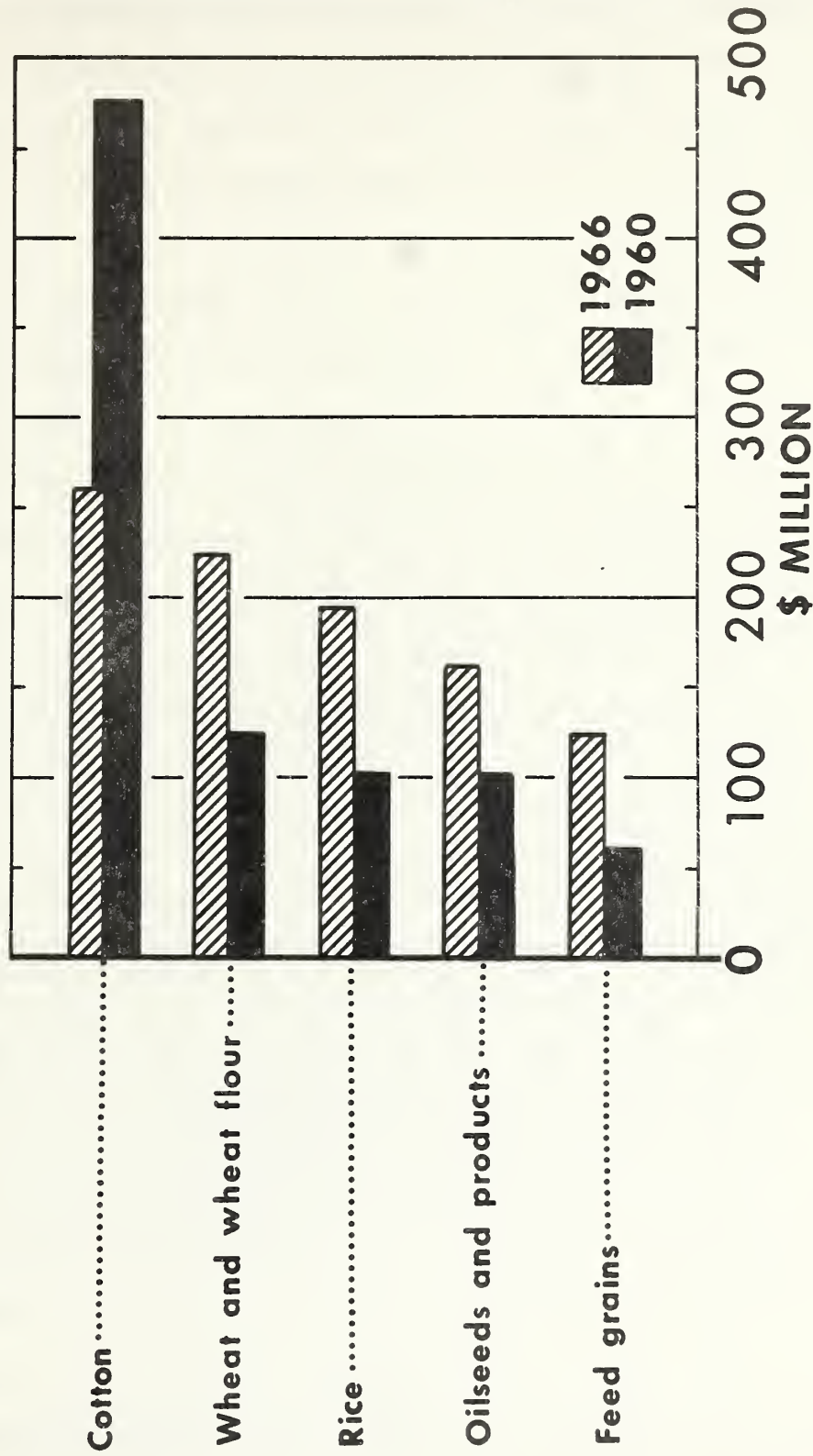
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Figure 2

EXPORT SHARE OF SOUTHWEST

Fiscal Years 1959-60 and Projected 1965-66

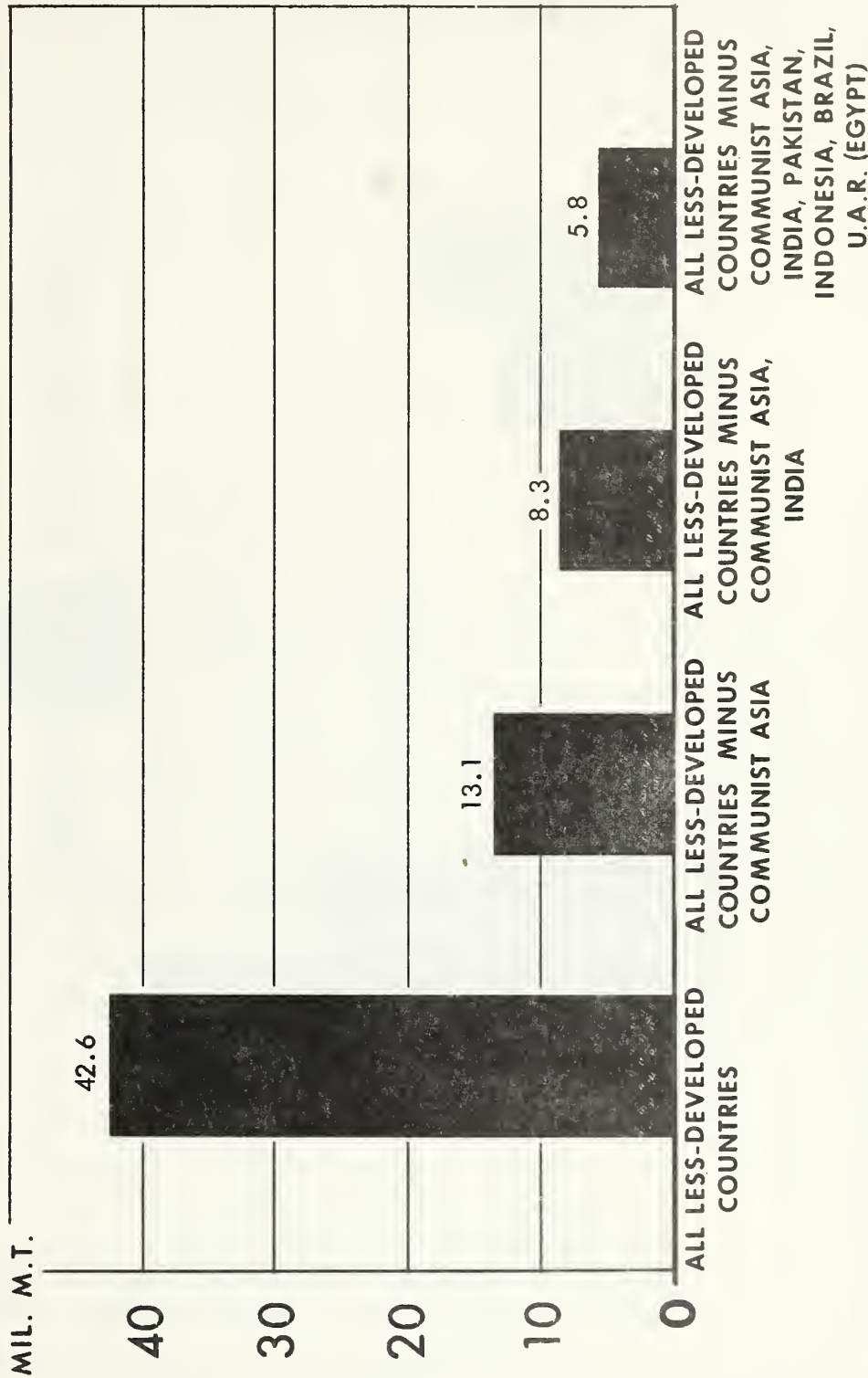


average level of consumption in a country and the amounts of food needed, on the average, to provide a diet that would meet nutritional reference standards established for calories, protein, and fat. 1/ In determining the food requirements to fill the nutritional deficit, the first step was to measure the energy deficit in terms of grains -- that is, the amount of grain required to provide an average diet in each country that would meet the nutritional reference standards for calories. Then the other nutritional deficits of protein and fat were considered. It is in this context that evaluations and projections of world nutritional needs are made. More than half the present and projected nutritional and energy deficits are in Communist China. For example, the total energy deficit for 1970 is projected to be 43 million metric tons of grain (figure 4). But the projected deficit is only 13 million metric tons if Communist Asia is excluded. Most of the Free World deficit is in five countries: India, Pakistan, Indonesia, Brazil, and Egypt.

In dollar terms, the total nutritional deficit for the less-developed countries (excluding Communist China) was estimated to be about \$3.8 billion in 1959-61. By 1970, it is projected to drop to about \$2.6 billion (figure 5). This will occur because the increases in per capita consumption will reduce diet deficits. Most of the increased consumption, however, appears likely to come from increased imports from the United States. One answer to the question of meeting nutritional deficits, consequently, appears to be that they are likely in part to be bridged by increased U.S. food exports.

1/ The World Food Budget, 1970. FAER No. 19, Economic Research Service, U.S. Dept. of Agr., 1964.

DISTRIBUTION OF GRAINS REQUIRED TO FILL ENERGY DEFICIT AMONG LESS-DEVELOPED COUNTRIES, 1970

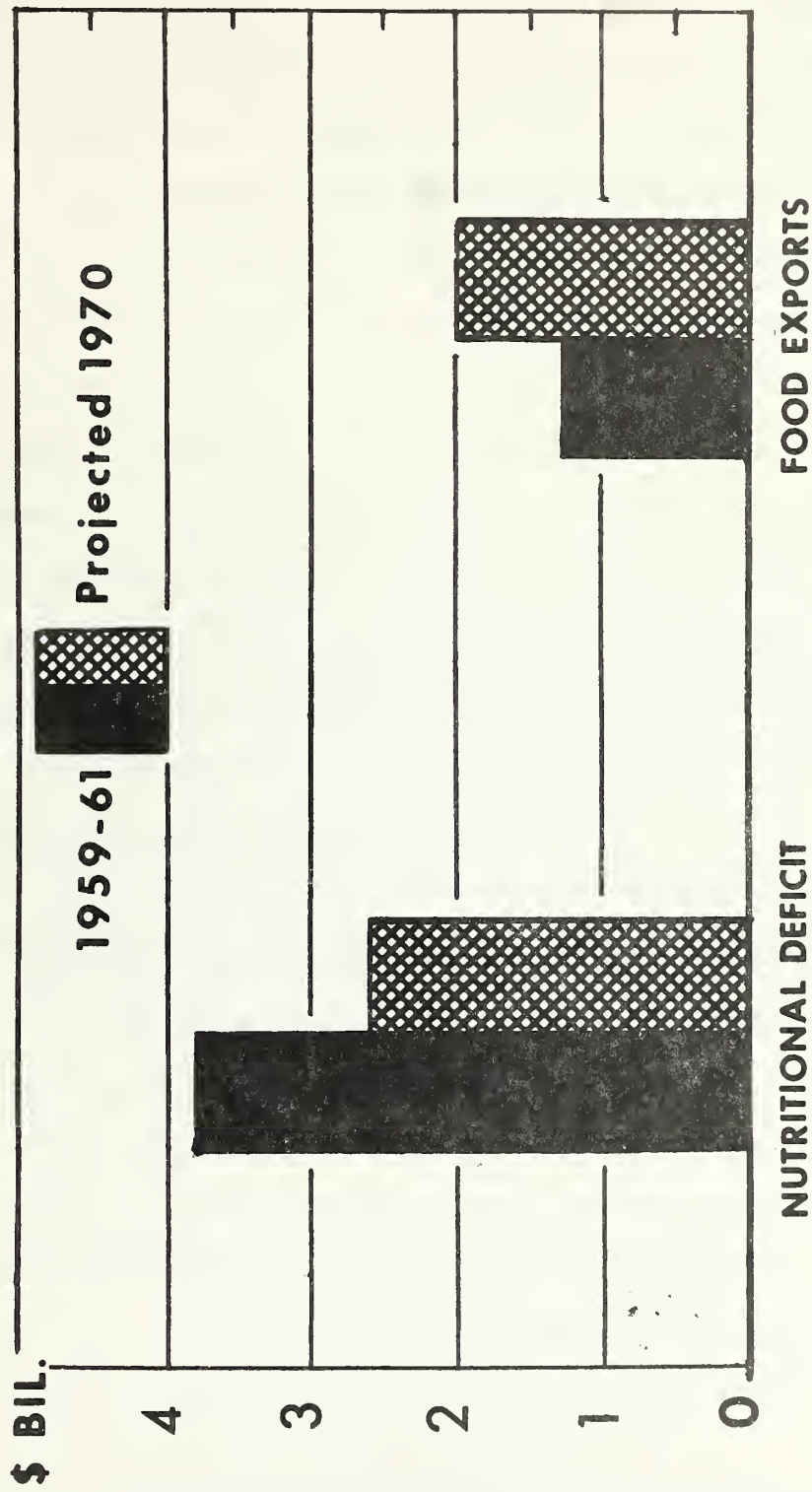


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Figure 4

NUTRITIONAL GAP AND U. S. FOOD EXPORTS, DIET DEFICIT COUNTRIES



The basic question is how these food deficits might be further reduced. The projections for 1970 are consistent with recent trends in showing a small gain in per capita consumption in the less-developed countries. But at these rates of improvement, it would take nearly three decades to eliminate the nutritional deficit measured in terms of the national average standards. Such slow progress toward attainment of the minimum necessities of life by the people of the less-developed countries is clearly inconsistent with both the goals of the less-developed and those of the developed countries.

In broad outline, there seems to be two general alternatives. One would be the enlargement of foreign welfare programs -- more food for famine and emergency relief for distribution to schools, etc. Such shipments, however, must overcome problems of domestic purchasing power in the less-developed countries and in many cases establish new systems of food distribution. These problems place limits on the extent to which increased quantities of food can be effectively used for these purposes.

The second broad alternative is the promotion of foreign economic development. Available research indicates that agricultural imports of the less-developed countries increase rapidly with increases in per capita income. In the less-developed countries, increased incomes are usually spent largely on food and clothing. There is a demand for increased quantities of food and clothing. There is also a demand for increased variety. People who are now living largely on rice begin to buy other foods to add to their diets. As per capita income increases, the demands for food increase and the imports of food increase. 2/ As per capita income

2/ Mackie, A.B. Foreign Economic Growth and Market Potentials for U.S. Agricultural Products, FAER No. 24, Economic Research Service, U.S. Dept. of Agr., 1955

increases in foreign countries, their increase of imports of U.S. agricultural products increases about proportionately to the increase in incomes (figure 6).

Most of the imports in countries with less than \$200 per capita income have been under special Government programs. But the very rapid growth in commercial U.S. agricultural export markets occurring in the rapidly developing transitional countries is frequently overlooked. Japan, for example, is now our major commercial importer. Per capita income in Japan has risen from about \$115 in 1950 to \$570 in 1964.

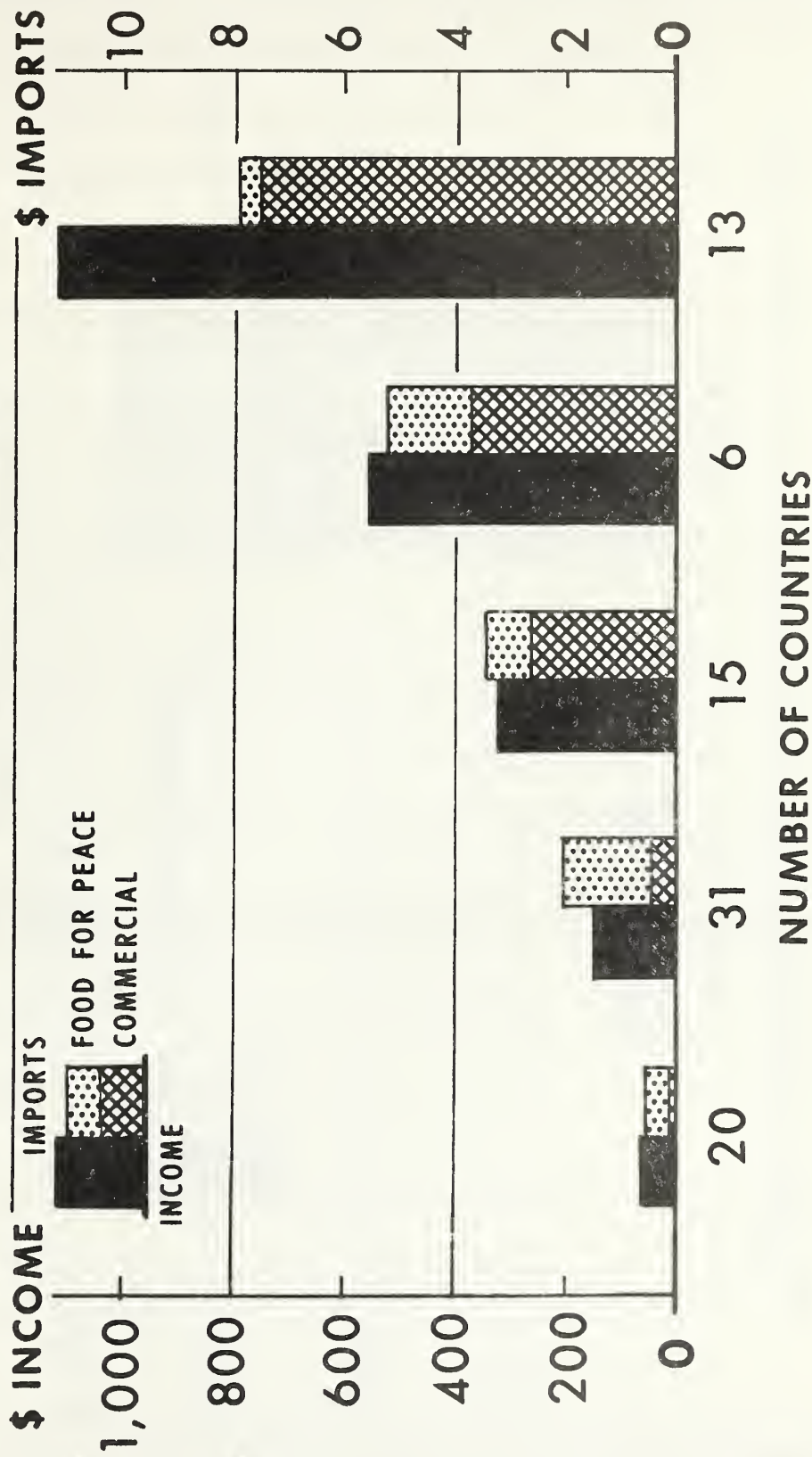
More than three-fourths of our increase in feed grain exports from 1960 to 1965 came from a group of countries with per capita incomes of \$200 to \$600 per year and a growth rate in per capita income of 2 percent or more (figure 7). Most of this growth in market came from Japan and Italy. Other important countries included Greece, Spain, and Mexico. Smaller increases in imports from the United States occurred in a number of other countries.

A major way of meeting world food deficits over the longer run thus appears to be through the promotion of more rapid economic growth in the less-developed countries. This, in turn, leads to larger U.S. exports. Over time, it can mean much larger exports for dollars.

Food Needs and Food Aid in Economic Development

Most of our attention has been centered on nutritional food deficits. But the problem is not merely one of substance, but of meeting the emerging food demands. The food gap in economic terms is likely to be increasingly important if rapid rates of economic growth are attained. The combination of rapid increases in population and increased per capita income results in

PER CAPITA INCOME AND U. S. AGRICULTURAL IMPORTS OF FOREIGN COUNTRIES, 1959-61



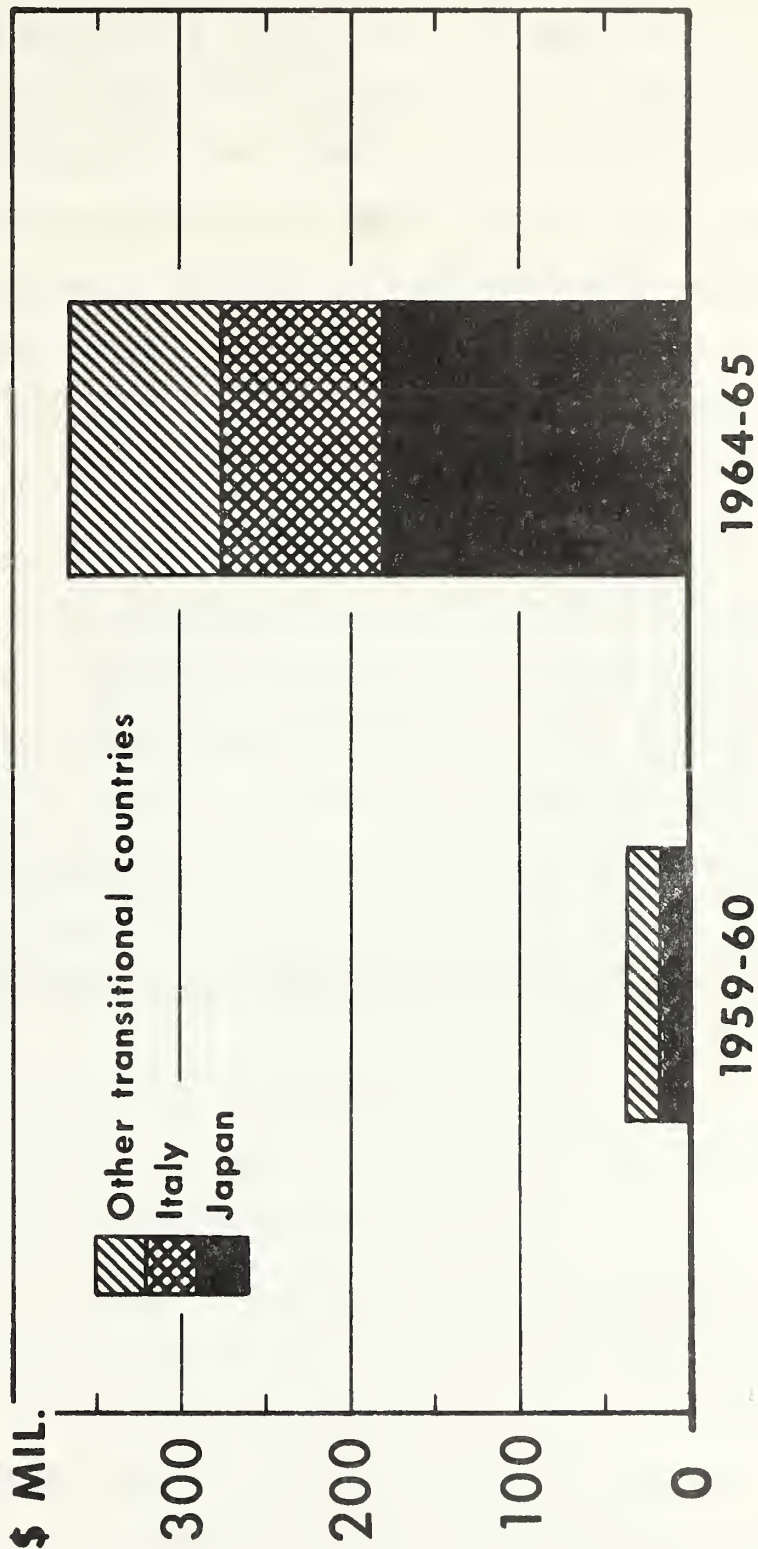
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Figure 6

U. S. FEED GRAINS EXPORTS TO RAPID DEVELOPING TRANSITIONAL COUNTRIES *

Fiscal Years 1959-60 and 1964-65



*18 SELECTED COUNTRIES WITH 1960 PER CAPITA INCOME OF 200 TO 600 DOLLARS AND 1960-64 GROWTH RATES OF OVER 2% PER CAPITA.

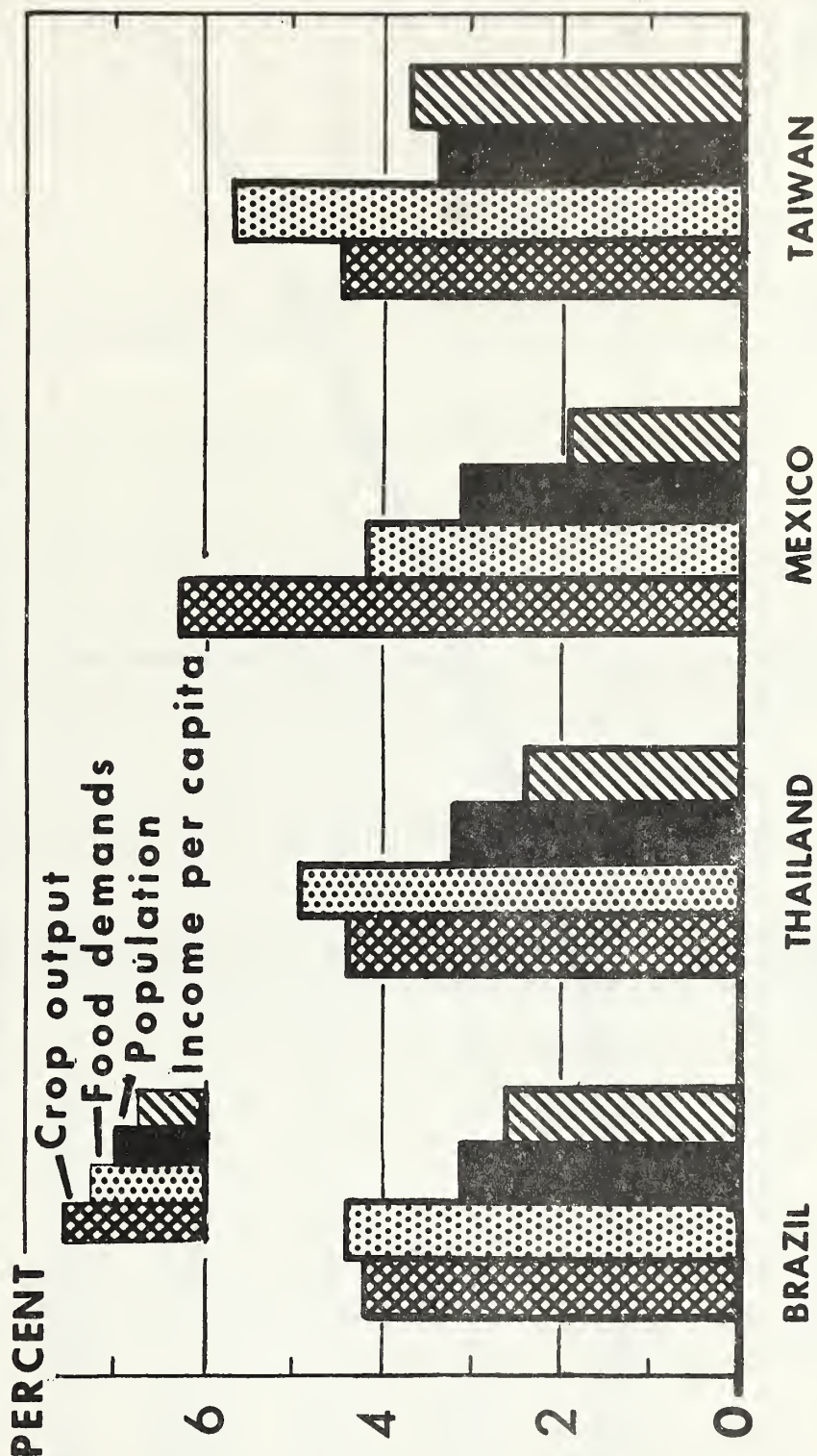
extremely rapid increases in food demands. In Brazil, for example, agricultural output has been growing at the rate of over 4 percent per year, but food demands have been growing even faster because of an increase of 3 percent in population and an increase of more than 2½ percent in per capita incomes (figure 8). A similar situation exists in Thailand and Taiwan. In Mexico, the extremely rapid growth of agricultural output amounting to 6 percent per year has provided some margin above their food demands. Mexico has become an exporter of some agricultural products. But imports of a number of agricultural products also have risen because of the growth in demand for products not grown in abundance in Mexico.

Food aid can play an important role in providing external resources to fill the gaps that exist because of rapid increases in food demands where the country lacks the foreign exchange reserves to finance the food and other imports needed for continued economic development. P.L. 480 sales for local currency and long-term loans help alleviate these problems of balance of payments and food-price fueled inflation. By doing this it provides a basis for continued growth in the economy.

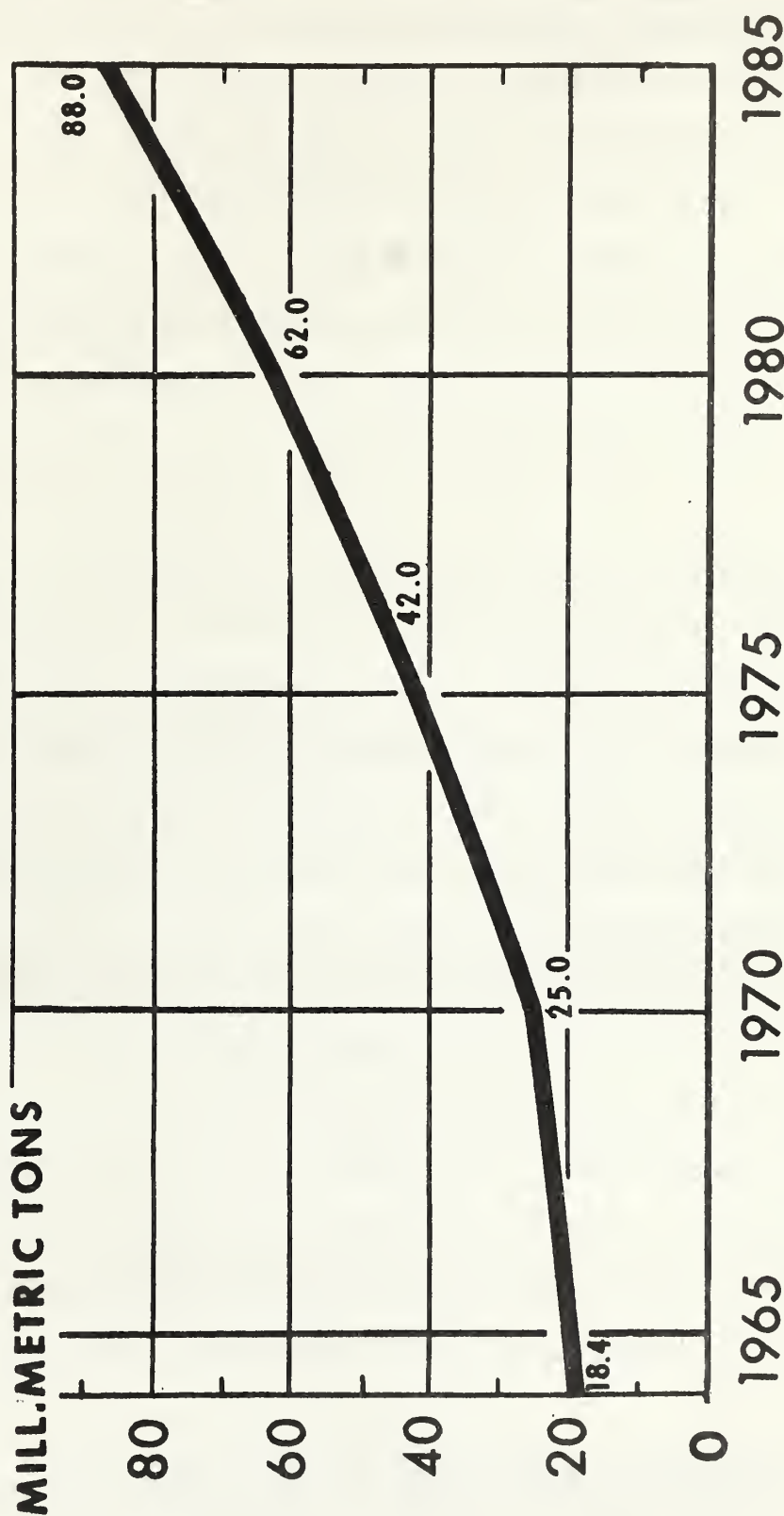
Importance of More Rapid Growth in Food Production

Equally important over the long run is the need for appropriate attention to agricultural development in the less-developed countries. The food aid needs of the less-developed countries would grow rapidly if their rate of increase in food production were no faster in the future than it has been in the past. Projections for 66 developing countries, for example, show grain import needs increasing from about 20 million metric tons now to 88 million metric tons by 1985 (figure 9). This requirement would be over four times the current level of grain shipments under P.L. 480. Such an

RATES OF GROWTH IN CROP OUTPUT AND FOOD DEMANDS, 1950-1960



GRAIN AID NEEDS OF 66 DEVELOPING NATIONS



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Figure 9

enlargement in the food gap is clearly not in the best interest of the United States or the less-developed countries. The costs of our aid to these countries would continue to spiral without a development of the ability of the countries to eventually take care of themselves.

It is clear that the most reasonable course of action to meet the emerging food demands is to encourage programs to increase food production in these countries themselves. Postwar rates of growth in food production of about 2.6 percent have been only slightly larger than the rate of growth in population.

It is possible, however, for less-developed countries to substantially increase the annual rate of growth in agricultural production. A recent study of 26 of these less-developed countries showed that 12 of these countries have achieved an annual increase in agricultural production of more than 4 percent. ^{3/} The 12 countries differed greatly in many of the factors generally believed to influence agricultural production potentials, including tropical and temperate zone climates, limited and abundant supplies of land, high and low rate of illiteracy, and widely varied cultural patterns of governmental systems.

Analysis of these countries indicated that the rapid rates of increase in output did not happen just as a consequence of normal economic and social processes in societies organized on a laissez-faire basis. Rather, they reflected aggressive group action generally national in scope directed specifically to improving agricultural production conditions.

^{3/} Change in Agriculture in 26 Developing Nations, 1948 to 1963, FAER No. 27, Economic Research Service, U.S. Dept. of Agr., 1965.

In reviewing this study, Secretary Freeman pointed out one of the most important lessons to be drawn from it, "First, there is no inherent reason why most of the newly developing countries cannot within the next decade or two increase their food and fiber production so as to meet the increased demands of their citizens and to have enough food or food-producing resources to spare to contribute substantially -- through trade and nonfarm employment -- to general economic development.' 4/

More rapid economic development in the less-developed countries would provide the opportunity for an expansion of the dollar export markets for U.S. agriculture. As these countries progress, they will be better able to finance commercial imports of agricultural products. Further, their food demands both in terms of volume and variety will expand rapidly. Comparative advantage probably will lead many of the tropical countries to increase their imports of many temperate zone agricultural products.

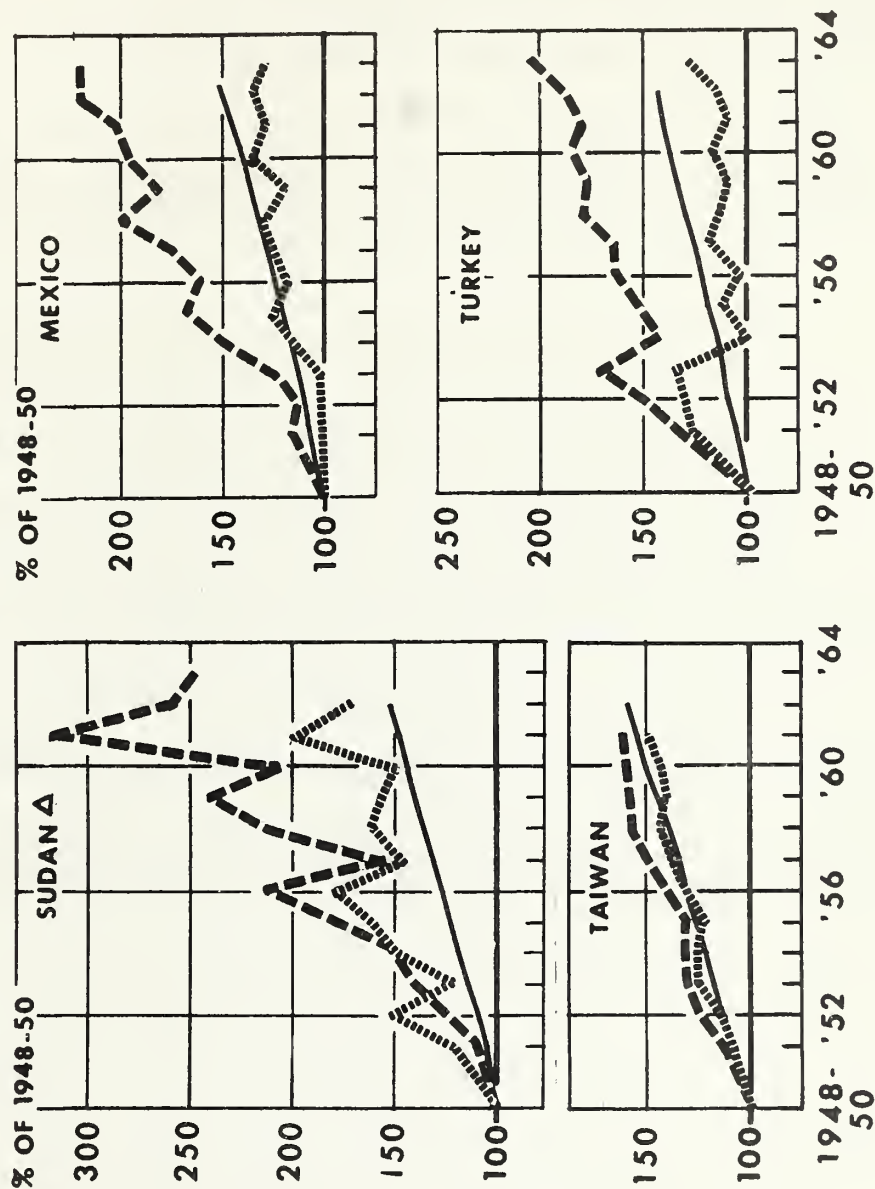
Although the task of increasing the rate of growth in agricultural production in the less-developed countries is not impossible, it is formidable. A first condition appears to be a reasonable amount of political stability. Equally important is the will on the part of governments to promote agricultural development rather than concentrate on industrial development.

Policies to promote modernization of agriculture will be required. Increases in crop yields appear particularly important. They have represented a substantial source of increased farm production in most of the rapid developing countries (figure 10).

4/ Hope for Hungry Nations, Address by Secretary of Agriculture Earl Warren at the Biennial Conference of the Food and Agriculture Organization, Rome, Italy, November 23, 1965.

INDICIES OF POPULATION, TOTAL CROP PRODUCTION, AND YIELD OF ANNUAL CROPS

— Population - - - Total crop production Yield (annual crops)



Increases in crop yields represent the major factor in the rapid increase in postwar crop output in all but four of the "rapid growth" countries analyzed. These four countries -- Brazil, Philippines, Tanganyika, and Turkey - all increased their crop acreage by over 50 percent in the postwar period. Only two of these -- Brazil and Tanganyika -- have a favorable potential for substantial further expansion in crop acreages.

Increases in crop yields seem likely to be even more important in the future than in the past.

The advancements in agricultural technology in recent decades provide dramatic opportunities for cheaply increasing food production. Most of the developed countries have capitalized on these advances in recent years to greatly increase their yields. Only a few of the less-developed countries have made similar progress. In many of these countries -- particularly in Asia -- the potentials for further expansion in arable land are limited. Even where favorable land expansion potentials exist, a combination of increased yields and increased acreage generally appears to be the most efficient means of making rapid increases in agricultural output.

In most of the less-developed countries, new agricultural policies are needed to remove some of the roadblocks to the cultivators increasing yields. Our analysis of factors affecting rates of growth in agricultural output in 26 countries indicates several factors are important in attaining rapid increases in yields. Wide fluctuations in product prices increase the cultivators' risks in purchasing fertilizer, seeds, and other materials to increase yields. In many less-developed countries, relations between product prices and costs of inputs do not provide incentives for the cultivators to buy the fertilizer, improved seeds, and other required inputs.

In many other cases, the supplies are not locally available and the cultivators are unfamiliar with the results that can be obtained. Most have not done much of the adaptive research needed to develop improved varieties and practices for the local climates and soil conditions. Other important factors include the development of marketing and credit services.

The particular policies required for rapid development vary widely, depending on the conditions in the particular country. Each country has its own unique combination of human, land, and capital resources as well as its own distinct social and institutional makeup. But the data on countries attaining rapid growth rates in agricultural production show a distinct and positive relation between effort and performance.

The United States can help in this effort. The new Food for Freedom program contemplates closer coordination of food aid with other assistance programs directed toward food and agriculture in the recipient countries. More of the local currencies available from P.L. 480 can be channeled to finance worthwhile agricultural development policies. U.S. industries are increasing their investments in fertilizer and other supplies needed for modernizing agriculture in the less-developed countries.

USDA and the land-grant universities have in my opinion, an important technical role to play. The analytical basis for choosing new agricultural policies is greatly in need of improvement. Our experience in the kinds of policies, institutions, and research needed in promoting the adoption of yield increasing technologies can provide an invaluable resource for agricultural development in many of the countries.

Concluding Comments

This examination of recent trends and prospects for U.S. agricultural exports leads me to several conclusions:

1. Increased agricultural exports, both to the developed and less-developed countries appear likely. The relative rate of increase of exports to the less-developed countries may well be more rapid than to the developed countries, but our biggest gains in markets probably will continue to be with the developed countries.
2. The growth in exports to the less-developed countries will help reduce nutritional deficits as economic development proceeds.
3. Food aid exports can, with appropriate policies, be one of the important tools in promoting more rapid economic development and improvement in nutritional levels.
4. Rapid economic development of a balanced type would substantially lift our commercial export potentials. Such development should involve more rapid agricultural development in many of the less-developed countries.

Finally, the view is implicit in this discussion that emphasis should be given to meeting world food needs by promoting economic development, thus making possible the development of increased commercial trade over the longer run. In this context, food aid can be used as a major tool.

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